Future of Copper and the Gold Age

By
John J. Cushing

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Member National Geographic Society, &c.

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INTRODUCTION.

Of Interest to Copper Shareholders.

The thousands upon thousands of investors in copper shares will be interested in any information which will tend to give them light or hope on the future of Copper. Charlatans, fakirs and promoters have been urging the public to buy copper shares for the past five years. Some of the most enthusiastic, but I cannot add the most reputable, would be advisors have heralded the cry "withdraw all your savings from the banks and buy copper shares" until this has become a household cry. Many deluded and over-credulous persons of moderate means have followed the advice of the pernicious advisors, until the savings of thousands upon thousands of honest and confiding persons are tied up in declining or worthless copper shares. Casual analysis of the advice given to the public by some of the self constituted investment advisors should have convinced any reasoning being of the unsoundness of the advice. If all the dire financial disaster predicted in the same public statements advising the purchase of copper shares was to be realized then as a matter of course, copper shares would be among the first to suffer, and events have proven this was the case. The value of all copper shares assuming of course that they are of a productive property, or one susceptible of production and which are the only ones I refer to, must depend entirely upon the market price of the copper metal. The market price of copper depends upon, cost of production, supply, demand, and ability to purchase

A period of industrial stagnation, curtailing the demand; a period of excess production over demand, or of depressing financial conditions cutting off the supply of money to carry out contemplated and needed improvements, the price of copper must decline. The decline of one cent a pound in the price of copper may reduce the dividends upon copper shares one or two per cent. or cut them off entirely, therefore it is very essential that all who contemplate investing in copper shares should carefully look into every phase of the copper situation as to its general conditions, past and future, and also as to the special conditions surrounding the particular proposition under consideration. The production of copper is practically a manufacturing proposition; the converting of raw material into a finished, useful and marketable product: and substantially the same conditions apply to it as to any legitimate manufacturing business, viz:

1. The convenience of supply and cheapness of cost of the raw material;

2. The convenience and cost of transportation and power, and cost of labor;

3. A constant and stable market not influenced by manipulation or subject to spasmodic and dangerous fluctuations, but controlled by legitimate trade demands.

The raw material for copper comprises, the cupriferous ores, and these are found in profitable or non-profitable quantities in nearly all mineral localities of the world. The cost of the same may be said to be based largely upon the percentage of copper contained in the ores and the character, as to convenience and cheapness in treatment. A high percentage ore of one character, may be more expensive to the miner than one of a lower percentage with less cost of extraction; hence the copper producer possessing the most favorable conditions, can, like the manufacturer of any class of goods, produce at a lower cost than one not so favorably situated, and, therefore, if desired, can undersell his competitor. But the manufacturer who can produce at the lowest cost is always ready to sell at the highest price obtainable, therefore when the demand is in excess of the immediate facilities to supply there are always consumers who, to secure quick delivery, are willing to bid up the price. Hence active or urgent demand is one of the chief factors in maintaining high prices.

The information on the copper situation and the relation of Gold thereto was compiled by me some time ago when the metal was selling around 25c a pound, at the suggestion of several clients who expressed a desire that I should furnish them my views upon the future of copper. It was not intended for publication, but several of the statements having subsequently been so nearly verified in fact, and some of the interested persons having expressed the belief that the publication of the same would prove of interest and value to thousands of investors, I have consented to the publication of the article and have added to the original such further points and suggestions as might prove useful to present or future investors in either copper or gold shares. If this little booklet shall be the means of aiding investors in mines or shares of mining companies in making wiser and more discreet investments, or of directing those who have already been swindled in investments to a means whereby they might recover their money, I shall feel well repaid. THE AUTHOR.
New York, October, 1907.

FOREWORD.

In October, 1906, when copper was selling above 25c a pound, and the demand for it at almost any price seemed to be insatiable, I stated to some friends who were interested in copper shares, that I could see a sharp and pronounced decline in the value of copper shares coming in the near future for the reason that in my opinion the copper metal would be selling at 12c a pound within a year and this could not help but bring lower prices for copper shares. I was asked to give my reasons for this belief and the information herein contained embraces the substance of my reply. The prediction of 12c copper was not fully verified within the year but so surprisingly close as to substantially confirm the prediction. It now looks as though 10c copper would be pressing for a market within the next year, although temporary advances are likely, and the holders of copper shares can appreciate what that means to them; but a brighter golden day will follow the depression in copper and the future is full of hope and encouragement for the holders of copper shares.

Before going into the reasons I wish to state that this booklet is not published at the instance of any investment interests, either copper mines, copper shares, gold shares or industrial shares, but solely with a view of calling attention to certain features of the metal and money situation, also of investment in mining shares generally, which may prove interesting and useful to those who will read it carefully and profit by it.

THE FUTURE OF COPPER

Statistical.

The demand for copper has increased normally with population and trade, like all other products, but during the past twenty years the demand for copper has increased abnormally and rapidly from year to year owing to the increased use and distribution of electricity for power, lighting, telephones and otherwise.

The Electric Age is still in its infancy, hence the demand for copper must continue to increase in much greater ratio than heretofore. It is a well known fact, however, that demand without an ability on the part of consumers to purchase would soon leave the producers a surplus supply and prices would remain stationary or decline depending upon the anxiety of the producers to market their product.

For the information of those who may not have access to copper statistics I am quoting hereafter figures relating to copper production and prices of copper based upon statistics contained in "Stevens' Hand Book of Copper" and other authorties on the subject.

The world's average annual production of copper and the average annual London price for ten years periods is given as follows: (Price refers to English £ (pounds) per ton.)

1801-1810	9,100	Tons	£160
1811-1820	9,600	"	130
1821-1830	13,500	"	101
1831-1840	21,840	"	94
1841-1850	29,100	"	83
1851-1860	50,699	"	111
1861-1870	90,000	"	87
1871-1880	118,900	"	79
1881-1890	237,339	"	60
1891-1900	370,890	"	52

From this table it will be seen that there was a gradual increase in production up to the period beginning with 1881, in which decade the average annual production was double that of the preceding decade. This was a forerunner of the

beginning of the electrical age. The decline in price kept regular pace with the increased production until 1851-1860 when an unusual demand established a new high price level from which there followed another series of regular declines. Coming down to the years following, note the effect of increased electrical use on the production of copper and how readily the mines responded to the demands.

Year.	Tons.	Price.
1901	513,243	16.72 c
1902	542,167	12.16 "
1903	585,081	13.72 "
1904	641,697	15.89 "

For comparison with London prices it may be mentioned that 11c copper would practically mean 51.1 London quotation; 13c equivalent to 61.1; 16c equal to about 74.1; 18c to about 84.1. Taking a period of 25 years from 1880 the dawn of the Electrical Age to 1904 the total copper production of the world is given as follows:

United States	3,936.560 Tons.
Foreign	4,425,500 "
Total	8,362,060 " .

or an average annual production of 334,482 tons; but as appears from the first table the average between 1881-1890 was only 237,339 it shows how rapid was the increase after 1890. In 1880 the proportions of copper produced in the United States was only 17% of the whole; in 1890 it had risen to 43% and in 1900 to 57% showing the tremendous copper resources of the United States whenever price and demand induced development.

Taking now four periods for comparison on the question of consumption and showing the excess of exports over imports, it shows the marvelous growth of the copper industry in the United States in a short period and that the real demand for copper did not begin here until about 1904, when our imports increased and our excess of exports decreased.

Year.	Imports.	Exports.	Excess of Exports.
1890	1,980 Tons.	5,485 Tons.	3,505 Tons.
1897	14,461 "	138,627 "	124,166 "
1900	52,588 "	168,986 "	116,398 "
1904	181,292 "	277,275 "	95,983 "

In the short space of seven years our excess of exports increased from 3,505 tons to 124,166 tons. Our American production for 1897 is shown to be 247,039 tons hence it will be seen that we had not begun to use copper at that time compared with European countries, as we could then spare practically 50% of our entire product. It is evident therefore that the Electrical Age begun at an earlier date and was developed more rapidly in Europe than in America. The following figures will serve further to illustrate that point: The production of the United States in 1900 is given as 303,058 tons while our excess of exports was 116,398 tons; in 1904 with a production of 406,268 tons we could only spare 95,983 tons. Therefore the real copper age apparently begun in the United States between 1900 and 1904 and to say that it has been concluded and the demand for copper satisfied in a short space of three years is ridiculous. The fact is that the real demand for copper in this country has now only begun and let the country now supply to the consumers of copper the money to carry out their projected improvements with the same lavish hand that the money was supplied to develop and produce copper, production and consumption will adjust themselves and copper prices and demand become more stable.

MANIPULATION.

About 1898 a French Syndicate undertook to corner the copper market but met with financial disaster, and brought ruin upon thousands of investors.

The real era of copper manipulation, however, began about 1900 and this marked the beginning of abnormally high prices, with consequent restriction of consumption, these high prices, however, stimulated the waning interest in copper mines and the search for copper was taken up by every prospector, miner or capitalist, and new mines were opened up and the productive capacity of old ones increased. High prices always encourage substitution and discourage consumption; as a sequence over production and lower prices follow. This is the natural law and if only this point were to be considered, the factor of difference between producer and consumer would soon adjust itself; but you will observe

before finishing this article there are many other material factors to figure upon and only time, labor and patience will adjust them.

DEVELOPMENT.

It takes about 3 to 5 years to open a large copper mine. Bearing in mind that the Copper Age really begun in this country in 1900, and that the seach for copper mines really started about 1901, it will be seen that the competative production of new mines could not begin to be felt until between 1903 and 1906. An examination of the real conditions will confirm the above statement.

NEW MINES.

Prior to 1901 the copper of the United States was produced principally in Michigan and Montana. The increased production of Montana from 1901 to 1904 is shown to be only 60,044,389 lbs., that of Michigan 42,725,103 lbs. While the increase of the other states in the same period was 89,867,889 lbs., being considerably more than all the other states (except Arizona) produced in 1901. To illustrate the stimulating effect high prices had on production, Alaska, which is not credited with any production in 1901 is credited with 2,043,586 lbs., in 1904.

It is safe to assert that there has been more money expended in opening up new copper properties since 1904 than for five years previous thereto and that many of these properties have now reached the productive stage, and therefore must become active competitors at any price which will return a profit. The cost of producing copper has been estimated at from 7c to 15c a pound, but I should say that 9c a pound would be the minimum. The newly opened mines possess an advantage in the cost of production on account of better grade of ores, cheaper development or more modern equipment, hence will practically control the market price. The amount of new work under way at the beginning of 1907 seemed to be greater than ever before, and Stevens in his Hand Book says: "It is safe to predict a steadily increased annual output for at least five years to come." This statement has been fully verified up to the present time. His estimates show practically a 100% increase will occur between 1904 and 1910.

The question is, can this country absorb this increase? Of this there can be no doubt, if given other favorable conditions.

WHAT IS THE FUTURE OF COPPER.

In view of the foregoing and of the present condition of things, *what is the future of copper?* It is evident from the foregoing that things look blue for the holders of copper shares at present with prices declining and mines closing, with a prospective increase in production of 100% over the present unprecedented production, will the world's markets absorb it?

Over production of Copper
not responsible.

Under production of Gold
is responsible.

There is not too much copper to fill the demand, but too little gold at present to afford the purchasing power, and until this condition changes we must expect stagnation in the copper consuming industries and other lines of business. Bankers may tell you that there is an abundance of money, but when you present your checks for money, in many instances, you are told that there is no money. The recent trying experience of the banks in New York and also in other places serve to give a practical and forcible demonstration of the truth of the statement at the beginning of this paragraph. All such startling headlines as appeared in a single issue of a daily paper in New York recently as the following serve to furnish further proof of my statement of a year ago along this line.

"Eight banks and Trust Companies stop payment, declaring they are solvent but cannot secure money to pay depositors."

"Savings Banks will require 60 days notice before money can be withdrawn."

"Big Trust Company in Providence closes its doors for lack of money."

"Clearing House certificates will be issued to take the place of money."

"Governor Sparks, of Nevada has declared three legal holidays in succession to enable the banks to secure money."

"Senator Elkins of West Virginia, states:

"The business of the country has increased 30%, money has increased only 5%, leaving a gap of 25% based on credit or confidence. This confidence is being shaken and we need more money. The next Congress should provide for an increase of the currency. What the country needs is more money."

If what Senator Elkins states was the only cause the situation could be readily relieved by international exchange, but the same conditions of expanse in business arising in all parts of the world at the same time, not only limits the United States to its own money resources but aggravates the cause by foreign countries drawing upon our Gold supply.

The recent dismissal of several hundred employees by the great Westinghouse Electric Manufacturing Company of Pittsburg, followed more recently by application for receivers for that $45,000,000 concern; coupled with a statement that the Company has more orders on its books than it can fill on account of inability to procure money to execute its orders, is further evidence of the scarcity of gold. The Westinghouse Company is said the be the second largest user of copper in the United States, and given the money for conducting its business on a scale commensurate with the unparalelled demand upon it, would soon enter the copper market and absorb a large portion of the available surplus.

An increase in the currency by Congress would only strain our international credit to a greater extent, hence we must look to the gold mine for the real and lasting relief.

There is, however, no reasonable ground for the senseless runs on banks by depositors and they are the ones who will suffer most in the end through such attacks. Every bank depositor should sustain the banks, withdrawing their money for their legitimate personal or business needs only and allowing it to circulate through the banks for business purposes.

In addition to the Westinghouse Company there are several other large copper using concerns which are limiting their output of copper products on account of close money. The closing down of the great Southern Steel Company is due according to the statements of its officials to a failure to secure money to meet the overwhelming strain of business

thrust upon it. The real demand and use for copper is even greater to-day than during the days from 1900 to 1907, when the price was forced up to an artificially high figure. There are hundreds of hydro-electric plants in various sections of the United States which will require millions of pounds of copper to complete; there are thousands of miles of projected electric traction roads ready to use millions of pounds more of copper in their construction and equipment; there are thousands of steam railways in contemplation of electrification as soon as money can be provided to finance those improvements; there are hundreds of industries ready to utilize electric power, all of which will require hundreds of millions of pounds of copper. Let the gold production of the world increase so as to furnish the necessary money to make the contemplated improvements and it would require the capacity of a dozen Westinghouse plants to turn out the electrical equipment. As the sudden demand for copper in 1900 was promptly met through the general exploration for it, so will the sudden demand for more gold be met through the renewed world wide exploration for gold mines which is sure to follow the collapse in copper metal prices and consequent loss of confidence in copper shares.

WHY IS GOLD SCARCE?

Why is there at this time such a world wide scarcity of gold? The causes are numerous. The carting away to Europe every Summer of $150,000,000 to $200,000,000 of gold by tourists is a serious drain upon our supply. By this means Europe is able to pay us in our own coin for a large part of our surplus exports, which otherwise would come to us in new gold. The abnormal advance in the price of copper enabled the producing copper companies to increase their dividends; the public became ravenously hungry for all kinds of copper properties and copper shares, prospectors and miners lost sight of everything else and went in search of copper. Mines which had been closed for years on account of depreciation in silver were re-opened and found to be profitable copper mines. Prospectors, both reputable and disreputable, worked over time day and night to load the public with copper shares, of established copper mines or with freshly printed certificates of new properties, many of which could never be expected to return anything to pur-

chasers. In order to make attractive the copper shares it was necessary to maintain for a time the increasing dividends and therefore the stock manipulators forced and maintained fictitious prices on copper, thereby restricting consumption at a time when improvements requiring copper could have been financed, thus forcing a big surplus of copper. But every structure reared on a false foundation must topple and crumble under the real test, and the copper conspirators had reckoned unadvisedly. They overlooked the fact that credit overstrained must seek an equilibrium in commerce and trade. The enormous amounts of money withdrawn from trade to enter the speculations in copper shares began to be felt in 1906, in the industrial and financial world, in the direction of legitimate business enterprises being unable to sell bonds or securities at prices which would warrant the enlargement and extension of the enterprise and thereby provide a market for the already accumulating surplus of copper. These conditions were not peculiar alone to this country but extended to all the leading countries of Europe. The demand for gold became so active abroad that Europe in place of paying its debit balance on exports, which in 1906 showed an excess of $517,000,000, began to sell its American securities thereby calling upon capital which otherwise would have gone into new enterprises in which copper would have been provided with a constant and increasing market to be used in the absorption of the securities thrown upon us by foreign holders. The demand for gold has become world wide in every line of industry, and notwithstanding the constantly increasing gold production it was and now is entirely inadequate to meet the requirements of the far greater proportionate increase in business and commerce.

A FEW WORDS ON GOLD PRODUCTION.

The annual production of gold in the United States in 1860 was $46,000,000. It then began to gradually fall off until in 1862-3 it had declined to $39,000,000. In 1864 it again reached $46,000,000. On account of mining activities following the war it increased slightly yearly until it reached about $47,000,000, and in 1871 it had declined again to $43,-000,000. Between 1871 and 1879 it again suffered declines

until it had reached $33,000,000; but in 1877 and 1878 increased activities brought it up to $46,000,000 and $51,000,000. In 1879 it dropped to $38,000,000 and fluctuated between that figure and $30,000,000, the average figure being about $32,000,000 up to 1895, when it again suddenly rose to $46,000,000. The search for gold began with the panic of 1892-3 and the great demand for gold resulting from the panic. The effect of exploitation were soon felt, for in 1896 the United States production suddenly jumped to $53,000,000, the highest point in the thirty years next preceding. In 1897 it rose to $57,000,000; in 1898 to $64,000,000; in 1889 to $71,000,000; in 1900 to $79,000,000.

Note the figures carefully and then reflect on the real conditions. The lean period of gold production immediately preceded the business depression of 1892-3; and the era of unparallelled prosperity from which we are just experiencing a temporary re-action followed quickly the sudden and marked increase in gold production between 1892 and 1896. The increased production has been gradual since that time but no where nearly in proportion to the world wide increasing demand for it to supply the needs of our growing business. A million dollar increase in 1895 would have required $10,000,000 to $20,000,000 in 1906 to have accomplished the same effect. The product of the gold mine takes its place in the finances of the world at once, whether coined or uncoined, and while a new copper mine would not effect the copper market for about five years. A new gold mine effects the gold market at once.

Take now the gold production of the world. In 1860 it was $134,000,000 and declined gradually to $115,000,000 in 1872. You can readily recall the depression in 1872 following the steady decline in gold production. In 1873-4-5-6 it declined below $100,000,000. For the next few years it gradually increased, but in 1883 it declined again to $95,000,000. It then rose at the rate of about $5,000,000 a year until 1891, when it had reached $130,000,000, the highest point since 1860. The increase had been gradual and steadied business but the rapidly growing business required more money to meet the expansion of trade and the depression began to be felt in 1892. In 1892 the world's gold production rose to $146,000,000; in 1893 to $157,000,000; in 1894 to $181,-

000,000 and in 1895 to $189,000,000; but by examination of the figures for the United States given above, it will be seen that the entire increase in production was in foreign countries, notably South Africa and we had not yet begun to feel the effects of it. In 1896 the world's production rose to $202,000,000, about $15,000,000 of which increase was in the United States and we then first began to feel the substantial effects of the increased production. In 1897 it rose to $236,000,000; in 1898 to $286,000,000, and in 1899 to $307,000,000, and the production has continued steady in this country since then. The world wide era of prosperity which started in this country in 1896, and in Europe a few years previous, has only followed the periods of substantially increased production of gold. But while the gold production was increasing at a substantial rate, the business of the world and the demand for gold was increasing at a far greater ratio. The Boer War checked production for two or three years in South Africa; the Russian-Japanese War called for an unusual amount from a single quarter; Mexico placed itself on a gold basis; Egypt, India and China have been absorbing annually more gold. The world's production declined from $307,000,000 in 1899 to $255,000,000 in 1900 and $263,000,000 in 1901, whereas to have kept pace with the growing trade and business it should have reached $360,000,000 in 1900 and $400,000,000 in 1901. In order to have enabled the world to carry on the necessary and urgently needed improvements then under way, such as the electrification of railroads, building of electric power plants, re-building and equipping steam railroads and the building of new lines; the rebuilding of destroyed cities and other properties caused by war or earthquakes and the carrying on of other needed improvements, the world's gold production in 1904, should have been at least $500,000,000, but the actual figures showed only $346,892,000, being nearly $200,000,000 short of the requirements. The mad rush for copper which began in 1899, withdrew the prospectors largely from the search for gold and while increasing the copper production to meet the growing demand it was shutting off the fountain from which must come the gold to enable the consumers of copper to fill their requirements.

Had the production of gold kept pace with the wonderful business progress during the past ten years the production

in 1906 should have been at least $700,000,000, whereas it was but slightly more than half that amount. That I am not alone, in the belief that the depression in prices of copper metal, copper shares and in all other securities as well as stagnation of new business enterprises is due to the shortage in gold, I will quote from a few recent articles:

The Financial World of October 19th, in an editorial headed "The Scarcity of Gold" states among other things: "The underlying reason of the present disturbance in all security markets is the growing scarcity of gold. As great as the production of this metal is at present, the demand for it is even greater. The supply is, notwithstanding the constant opening of new gold mines and the exploitation of old gold mines by modern machinery, far behind the demand."

The New York Sun of October 21st, contains an article dealing with this same subject. Under the heading of "Scarce Money Hurts Copper." "The copper trade is in bad shape because money is tight, not only in the United States but in Europe. Beginning with the first flow of gold from the mines of the Rand, South Africa, there has been a tremendous increase in the production of this metal, on which rests the entire business fabric of the world. In consequence of this increase all civilized countries have added greatly to their holdings of gold and the past ten years have witnessed the period of greatest activity and industrial progress ever known."

THE REMEDY.

The remedy for existing financial ills then is a renewal of activity in the search for, exploration and working of gold mines. This is as certain to follow the suspension of copper mining as that day will follow the night. The "Copper Age" which has been with us for the past ten years will now be speedily followed by a new "Gold Age" in which all industries will thrive. It has always been proven that whenever the prospectors, miners and capitalists unite in pursuing explorations for the metals that the joint efforts have been realized and duly rewarded. Gold is the master of the financial world; it controls all business enterprises. There is a limit to which credit may extend and while financial operations are confined within that limit enterprises flourish. Every dollar of new gold will support with confidence a

$5.00 expansion of credit currency; but once let the limit be passed, confidence is shaken and there comes like a bolt of lightning from the clouds, a scramble for gold from every quarter of the globe. It is the only money of final settlement.

WHAT IS NECESSARY.

To bring about the "Gold Age" and with it the "Copper Age" the "Industrial Age," and financial confidence and stability will require much hardship, privation and suffering on the part of the prospectors and miners, who will risk their lives in the exploration of remote and dangerous places. It will also mean the loss of millions of dollars primarily expended in the exploration, development and proving of unknown, but reasonaby to be believed, meritorious properties which may prove failures. It will also mean the loss of other millions by innocent and deluded investors who will listen to the boastings of the unprincipled and dishonest promoters, who are ever ready to take advantage of public interest in honest enterprises, to gather in the pennies of the poor but honest, confiding public. The final outcome will however, pay for all the hardships and losses, in the increased prosperity and better opportunities for the whole people which will follow. Perhaps not every individual will gain to the extent of his individual loss, but collectively they will.

WHERE WILL THE GOLD COME FROM?

Where is all of this increased supply of new gold to come from, it may be asked? From all parts of the globe. But some say that the probable localities for profitable gold production have already been thoroughly explored. This is not so, for every year gold is found in places where perhaps the year before it had been explored and pronounced a failure. The gold veins and placer diggings of the world have not yet even been properly scratched. There lies waiting for the pan and pick of the prospector in the states of Colorado, Idaho, Montana, Washington, Oregon, California, New Mexico, Arizona and Nevada, more gold than has ever been extracted. Science and invention are yearly providing improved methods of saving gold from ores which were considered worthless the year before. Prospectors and miners are studying mining as a science more each year. The government is coming to the aid of the prospectors through geological research.

GOVERNMENT AID.

The day is not far distant when this government will establish and maintain free assay and experimental treatment plants in every mining State where the poor hard working prospector can at no expense have the various samples he encounters in his prospecting carefully and competently analyzed by employees of the government and not be compelled as is often the case, to part with half of his discovery to secure an assay. Not until the government establishes such offices and gives to mining the same consideration that it does to farming and some other industries, will there be that thorough and successful prospecting which will fully develop the gold resources of this country. With this encouragement by the government the prospector will feel assured that he will be encouraged and protected in his work; that he can have the value of his discoveries fully tested, both as to value and methods of treatment; this will place him on the equality with what only the capitalist can do now, hence the prospector will then enjoy at least the major portion of his hard labors. This government aid will have also another far reaching and beneficial effect. The approval of the government officials as to the value and methods of treatment of the ores of a prospective mine will strengthen the confidence of prospective investors in mines, and thereby aid in the furnishing of capital to open up and prove the discoveries of prospectors. With government aid to prospectors investors would soon learn to insist upon a certificate from a government Mine Commissioner before Investing in a mining enterprise. This would eliminate many of the wild cat mining propositions which are the curse of the industry and would elevate mining to the position it should occupy in the business world. The actual prospector or discoverer of a mine would then reap his reward, and prospecting for gold would be greatly stimulated to the general good of all

The neglect of the government to extend proper encouragement to mining by enabling the prospectors to learn scientific prospecting, and to have free analysis and tests made of samples which would indicate the presence of gold, has confined the search for gold largely to what may be termed "freak ores" that is ores in which the prospector could see the gold. The low grade gold mines of the world are the

most profitable and prolific in the long run; they are practically manufacturing propositions and the prospecting for such should be encouraged by the government in every way possible.

GOLD MINING A MANUFACTURING BUSINESS.

There will undoubtedly be many new and low grade gold mines opened up and successfully worked during the next few years. Alaska has known deposits of low grade profitable gold ores, which are now in need of capital and which are as safe to invest in as any established manufacturing business and a great deal more profitable. Colorado, New Mexico, Montana, Nevada, Idaho, Washington, Oregon, California and Arizona all show evidence of substantial bodies of low grade profitable gold ores, waiting only for the prospector to prove them before capital in sufficient amount will take hold of them. In mining the small investor and prospector must usually take the first risk, and not until it is proven will capital take hold of it. Whenever the large and known gold deposits of Alaska are opened up they will add millions annually to our gold supply. In addition to these, exploration will bring to view many other such deposits in Alaska. As an illustration of low grade gold mines take the Alaska Treadmill mine; reports show that this mine has crushed 4,624,289 tons of ore which yielded $11,144,912.24. The average yield per ton being only $2.41 and the average cost of operation being $1.18 per ton. The net profits are shown to be $5,667,149.58 and the Company has on this very low grade ore been paying large dividends. The Company have in use only about 500 stamps. The Alaska Mexican Mine shows even a more astonishing fact regarding low grade ores. It crushed 1,293,662 tons of ore yielding $2,816,278.83 in gold, or an average of only $2.18 per ton. The operating expense was $1.73 per ton thus showing a net profit of only 45c per ton, and yet the company has been able to return to its stockholders profits of nearly $600,000. The Ready Bullion Mine in same locality has produced over $3,000,000. The entire stamp capacity of the Alaska Mines at present would only approximate 1,000 stamps whereas there should be in operation in that section several times that number.

The Mining and Scientific Press of October 5th, 1907, con-

tains an article on the mines of South Africa in which it states: "The greatest gold mine in the world is said to be the Robinson Mine. This mine started operations in 1888, since which time it has milled $2,686,315 tons of ore. The gold produced has been approximately $47,000,000, with dividends of about $25,000,000 or over $2,500,000 per year. The ore actually in sight is said to be over 4,000,000 tons with a net value of over $40,000,000. These facts are sufficiently eloquent and emphasize the wonderful possibilities of gold mining."

There are in operation in the South African mining country over 8,000 stamps. What will be the result when the mines of Alaska are equipped to that extent? Add to this the mills that could be profitably employed in milling the gold ore of other well known mining sections of the world and you can in a measure realize what the production of gold will be, and its effect on the business of the world.

There are many sections where gold mining can be profitably looked into and capital invested in at the present time. Mexico is rich in gold ores but little effort has yet been made to utilize them. Peru, Guiana, Brazil, Argentina, Columbia and other South American countries are filled with gold mining possibilities waiting only the magic wand of capital and enterprise to yield up untold millions annually. In the Central American States gold is known to exist in almost unlimited quantities. In Costa Rica and Nicaragua there are many old Spanish mines which by the most crude and unscientific methods yielded millions of dollars nearly a century ago from surface workings alone. These mines were worked by open cuts made into the huge dykes or veins of gold ore, and the treatment was by old Spanish Arastas saving perhaps 30% to 50% of the gold. These mines laid idle for years and within only the past few years several of them have been taken hold of by American and English capital with success in nearly every instance. The ores are said to be principally of gold, and yield freely to the ordinary milling and cyanide process. It is claimed that many old mines in Central America were opened by shallow tunnel workings at a later date and the rich streaks which would pay with an arastra worked, and much larger amounts of what was then considered unprofitable ore left exposed in the workings. It is claimed that with a moderate systematic

development very large bodies of ore could be blocked out in some of those old properties at a reasonable expense and that with a modern plant could be made to pay substantial interest returns upon large capital. The ores of some of the Costa Rica Mines which have already been equipped show high milling values, while some of the properties which have been examined show probable average gold values of $10.00 per ton and upward. With the low cost of mining that usually prevails in the Spanish American countries and the free milling character of the ores, even $5.00 ore should yield a substantial profit with a plant of reasonable capacity. New properties in the South American and Central American States are already in process of being equipped both in placer, dredging and lode mining and from present indications they should before many years attract sufficient American capital to bring those countries into rank with Alaska or even South Africa.

The geologist used to say that you would find gold only in certain rock formations, but the venturesome and much abused prospector, aided by the practical miner with courage to test his belief, have proven that "Gold is where you find it," and they are finding it in almost all kinds of formations.

If a small portion only of the money which has gone into copper mines in the past eight years had been expended in the legitimate exploration and development of gold properties the production would have been greatly augmented. This has been proven in Nevada, but there the search for gold has been largely confined to the "freak ores" instead of the more stable and enduring gold manufacturing propositions. The "freak mines" unduly excite and enthuse the public and lead to the reckless and speculative promotion in mining stocks rather than legitimate mining enterprises.

A WORD OF CAUTION.

What Constitutes a Gold Mine.

In concluding this article it may not be out of place to add a few words of warning to the thousands of persons who will be importuned to invest in mining stocks during the coming "Gold Age."

All stocks bearing the name of or printed in gold cannot be classified as desirable or legitimate gold shares.

There must be a substantial foundation, and it is well enough here to define what constitutes such a gold mine

as would be considered a safe and sound investment. In a work on mining by R. H. Stretch, E. M., under the heading of what constitutes a mine it is stated "A mere bunch of ore will not make a mine; and it may be well to examine the factors which really go to constitute a mine. A "MINE" then, is any deposit of mineral which can be worked at a profit; before the deposit is exhausted it must have returned to the "adventurers" (or shareholders) the original purchase money, the entire cost of improvements of every nature, and the entire cost of working the ore, whether it be mining, milling, smelting, transportation, supplies, superintendence, or office expenses, together with a fair interest on the money invested."

(1) This means a property of merit, and if a gold mine, carrying gold ores in quantity and paying quality. (2) It should be developed sufficiently to prove the first condition and warrant its equipment with a suitable plant; (3) It should have favorable conditions for working and the results should show profits; (4) the amount of ore in sight or readily ascertainable should be sufficient to repay all costs of equipment, operation, and still return to investors their principal in a given number of years with a fair interest return in addition, provided no more ore is discovered. These conditions existing on the start investors are not speculating or risking their money, for they are assured in advance of receiving their money back with interest, and whenever a person does that he cannot complain. Mining is now so well understood by experienced engineers and miners that the foregoing points can be established to a practical certainty before beginning the erection of a plant.

The only speculative feature about such an investment is whether the investor will receive 10% a year, which is regarded as a fair return in addition to his principal, in a mining investment; or whether through new ore bodies to be opened up as part of the mining expenses he may not receive 20%, 30% or even more per year. The development work should always be kept ahead of the extraction and this work is usually charged as part of the operating expense but really becomes a surplus same as the earnings of any other business above dividend requirements is considered. A good mine may be operated in a poor manner, and it is all important that the management should be in the hands

of successful and competent business men, whose honesty and integrity cannot be questioned. (5) Therefore it is all important for the investor to look carefully into the character, ability and reputation of the men who constitute the business management of the Company, if the men are clean and successful you can rely largely upon their statements regarding the mine . (6) The verification of the facts constituting the essentials of a mine must rest largely upon the report of the engineer who examines and reports upon the property, therefore inquire into the record of the engineer and learn whether his previous experience has been associated with successes or failures.

When the foregoing conditions are found to exist no one need hesitate to invest in the property or the shares, and if he becomes interested in the first stages of the financing of the enterprise, when the shares are usually sold at a low price comparatively, he is sure to reap very large profits from the enterprise, and have a long time profitable investment.

If the foregoing conditions do not exist then it becomes largely a speculation instead of an investment, as it is then a development proposition. However, it often happens that a development proposition becomes very profitable, but it should be more carefully scrutinized before investing in it, and no one should invest in a developing proposition unless he can afford to lose his money. The points to be observed in a development proposition are briefly as follows: (1) Is the property one of prospective merit and well located as to proven mines, or reasonably favorable for mineral from surface showing, formation and general location? (2) Is the title good? (3) Is the Company properly organized and does it hold title? (4) Are you securing your stock at a price which is justified by the prospective value of the property compared with capitalization? (5) Is the management honest and competent and does the money received from sale of shares go into the development of your property? These conditions being favorable you have no complaint to make if the proposition should fail, for you have taken a speculative chance at long odds and if one out of ten wins you may come out ahead.

Mining is one of the most laudable of all business. What the miner takes from the mine robs none but mother earth and goes forth to enrich and enoble all who use it rightly.

GOLD MINING LEADS.

Gold mining stands at the head of all other mining enterprises. You have no competition and the price of your product is always the same. Your dividend returns depend only upon two points, production and management, while in copper mining you are always at the mercy of the market the difference of 1c a pound in price of copper may mean a difference of considerable in your dividends or may cut them off entirely. The price of copper can be manipulated as has been done, and your stock values ruined in a few days even though your mine has an abundant supply of ore.

THE FUTURE OF COPPER.

The Gold Age is coming soon and the capitalist or small investor who will invest in gold properties or gold shares of merit, with due caution and discretion is going to reap large returns. With the coming of the Gold Age will return renewed and increasing demand for copper at a stable price probably between 12c and 15c and the copper shares of favorable copper mines will return fair interest to those who have purchased them at proper prices. Hold on to your copper stocks at present.

HAVE YOU LOST MONEY?
WOULD YOU REGAIN IT?

In conclusion a word to those who have invested and lost. In the majority of cases it is your own fault. You have been led into it by false and unreasonable promises that a little investigation would have shown you could not be carried out? It is much better to spend a few cents or even a few dollars in investigation rather than lose a hundred or a thousand. Fully nine-tenths of all the mining stocks sold are promoted by persons who have absolutely no knowledge of a mine. They know what it costs to print stock certificates and sell stock, and figure that all above that is profit. One of these persons comes into your town, perhaps, and tells about owning ten or twenty mining claims in some established mining district, which is then having a boom. It is the power that moves the business world and advances the civilization of every nation.

He gets a few business men to put in a few dollars, organize a company and become directors, and then the stock-selling

begins. None of them know anything about a mine and the chances are that the claims are situated miles from any even prospective mining properties, and that a competent mining man would never pay for recording the location notices for a deed of the whole ground. You wonder why your money is lost and you condemn mining. That is not mining at all. If you have lost money in such honestly intended propositions you can soon make it back in a legitimate mine. Other times you read a full page advertisement in a newspaper explaining about some wonderfully rich mine and you send your money to the promoters, who have probably been written up in the same newspaper several times as nothing more or less than unprincipled swindlers. In such cases it becomes you to preserve copies of all advertising matter, whether newspaper advertisements, prospectus, letters or otherwise received from that concern and submit them to some one familiar with mining and law and it frequently happens that your money can be recovered back for you if the parties are still in business. The mining fakirs who have been robbing you for years, and perhaps creating in your mind an impression that all mines are swindles, are well known, and it is easy for you to learn their record if you will only inquire.

Be conservative and careful in making investments. Even the most careful will sometimes meet with a loss, but do not let this prejudice you against that particular form of investment. This does not mean that you should follow losing investments with recklessness but rather with more than ordinary caution. The information given hereinbefore will enable anyone to form a good idea of the merits of a mining proposition. If not sufficient then look carefully into the reputation of the men for you must rely upon them almost entirely.

Do not sacrifice your copper stocks, but look into the merits of the properties upon which they are founded and ascertain whether that mine can produce copper to compete profitably with other mines at the new level of price which will maintain under natural conditions in the future. Do not base your profits upon manipulated prices, for such cannot be sustained except at eventual loss.

Be conservative; but not pessimistic.

Be courageous; but not reckless.

Compliments of J. J. Cushing

Dear Sir:

I am enclosing you as per your request copy of my booklet "The Future of Copper" and trust you will find it of interest and value. I shall always be pleased to give you any further information, and co-operate with you in any way that will tend to your advantage.

On the question of increase of our currency circulation as suggested by Senator Elkins, it has frequently occurred to me that if every holder of United States Bonds were allowed to deposit the same with the Secretary of the Treasury for periods of not exceeding six months, and receive therefor Treasury notes, or legal tender notes for the full par value of the bonds, with the provision that he should forfeit the interest on the bonds during the time they remained in the Treasury, it would furnish a means for supplying currency to move the fall crops. This would also tend to regulate interest rates, and would therefore adjust the currency to the public needs in place of to the desires of the bankers. The government could set aside the interest savings on the bonds to provide for the final payment of them. By limiting the period in which bonds could be so deposited to six months it would prevent a permanent expansion of the currency, as depositors would redeem the bonds when interest rates declined after the fall demand for currency.

The foregoing is a suggestion which I should like to see discussed.

Respectfully,

JOHN J. CUSHING.

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